

REMARKS

Reexamination of this application is respectfully requested.

The examiner has rejected claims 1, 2 and 13-21 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,158,369. Claims 19 and 20 were also rejected as being anticipated by Tucker, and therefore were rejected on that basis also.

Applicant has amended claims 19 and 20 and has submitted a terminal disclaimer to overcome the double patenting rejection of all claims, with the specifics on the disclaimed dates to be determined by the examiner and the Patent Office. Regarding amended claims 19 and 20, both Tucker and Mitsubishi teach and show equal drafts at bow and stern (see Fig. 2 of Tucker and Mitsubishi). In consequence, their triangular planforms necessarily have a center of waterplane (LCF) and center of buoyancy (CB) one third of the hull's length forward from stern, or two thirds aft of bow, as anyone skilled in the art should know. In consequence, the center of gravity of Tucker has to be at the center of buoyancy. i.e. Tucker must have CB, CG, and LCF at same location. This close proximity is usual now (2005) for conventional hull designs, and was inherent in Tucker in 1859 (specifications pg 2 lines 4 to 21). Mitsubishi, aware of the fact that these relations are unstable for triangular shapes, shifts its CG forward of its LCF by using a bulb at bow, shifting CB and CG ahead of LCF, but compromising the drag results with the bulb, as shown in the Mitsubishi specification pg. 3, lines 3-8. In patentable contrast, Calderon keeps the purity of the lines of the hull thus shifting CG forward of LCF by at least 5% of body length, by means of a deeper draft at bow, which solution appears not seaworthy and only TH daring inventive theory backed by experiment has shown is not the case. The 5% distance is illustrated as  $\Delta x$  in Fig.2 and Fig. 5, the latter as a new function of stern draft. Applicant recognizes that the above inventive substance can be expressed better than claims 19 and 20 rejected on Tucker, even though Tucker is qualitatively different in kind, and is not operative as a hull, as Mitsubishi's patent proves. Accordingly, applicant has amended claim 19 to clearly establish the following unique combination of parameters:

- LCF (area centroid) at substantially 33% of length;

- 1 - draft forward greater than draft at stern in hydrostatic condition;
- 2 - CB at least 5% of length found of LCF; and
- 3 - CG at 38% forward of stern.

4       Applicant thus believes that currently amended claim 19 is clearly allowable over Tucker,  
5 and further is considered to have inventive substance over Calderon's TH patent, thus eliminating  
6 the need for a terminal disclaimer in connection with claim 19.

7       Regarding claim 20, it was also rejected on Tucker. However, claim 20 has now been  
8 amended to include the restrictions already discussed on claim 19 which makes it allowable over  
9 Tucker. Furthermore, claim 20 now recites that the hydrostatic draft has certain specific limits, no  
10 less than 1.5% of hydrostatic beam, as supported by Fig. 6A, and a hydrodynamic stern draft of  
11 substantially zero as shown in Figs. 4a, and as taught in Fig. 1. Consequently, claim 20 is allowable,  
12 and is also considered inventive over prior TH patent.

13       It is further believed that the submission of the terminal disclaimer addresses and resolves  
14 the examiner's concerns, and therefore it is respectfully requested that the present application be  
15 passed to issuance at the examiner's convenience. However, applicant would respectfully request  
16 the examiner to provide his opinion on the possibility and proper procedure by which claims 19 and  
17 20, if deemed to have inventive substance over the prior TH patent, may be granted protection for  
18 the full remaining period of 20 years from the filing date, instead of being subject to the restrictions  
19 of the terminal disclaimer. If the examiner would be so kind as to inform applicant and his attorney  
20 of the proper procedure for doing this, it would be greatly appreciated.

21       Applicant has invented a transonic hull which is superior to those hulls found in the prior art.  
22 As such, it is believed that this invention is deserving of protection, and the granting of such  
23 protection is respectfully requested.

1 Applicant is mailing this amendment after expiration of the three month response period but  
2 within the third month's extension of time permitted by 37 C.F.R. § 1.136 and accompanied by the  
3 fee set forth in 37 C.F.R. § 1.17(a). This application is thus believed to be in condition for allowance  
4 of all claims remaining herein, and such action is respectfully requested.

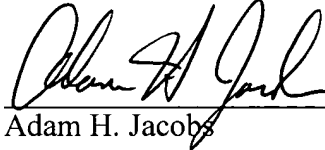
5 Respectfully submitted,

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13 CERTIFICATE OF MAILING

14 I hereby certify that this Amendment for a TRANSONIC HULL AND HYDROFIELD II,  
15 Serial N° 09/672,190, was mailed by first class mail, postage prepaid, to Mail Stop Non-Fee  
16 Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 11th  
17 day of July, 2005.

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19 Adam H. Jacobs